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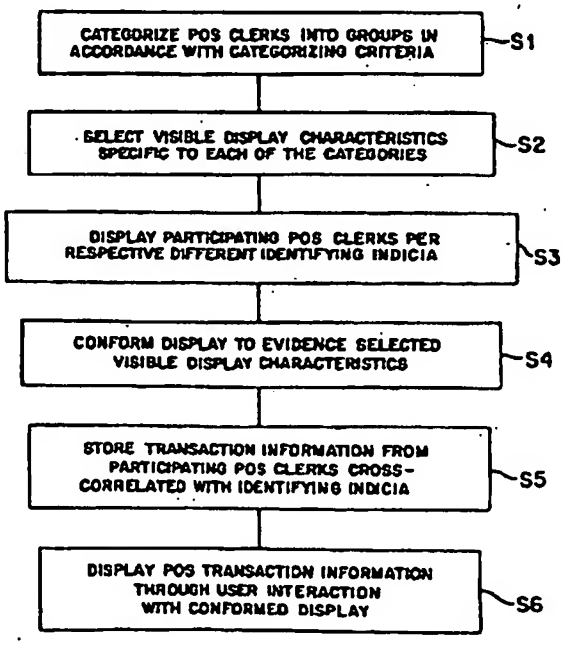
(54) Title: COLOR-CATEGORIZED POS STATION CLERK PERFORMANCE EVALUATION SYSTEMS AND METHODS

(57) Abstract

A method for use in evaluating performance of participating POS station clerks (16-22) comprises the steps of categorizing the POS station clerks into groups in accordance with various categorizing criteria, selecting visible display characteristics (50) specific to each of the categories, providing a display of all participating POS station clerks (52) per their different identities, conforming the display (30) to evidence the selected visible display characteristics, storing transaction information from all participating POS station clerks with clerk identities, and displaying transaction information through user interaction with the conformed display.



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COLOR-CATEGORIZED POS STATION CLERK PERFORMANCE EVALUATION SYSTEMS AND METHODS

Field of the Invention

This invention relates generally to so-called "POS" (Point of Sale) systems, such as are found in retail facilities, and pertains more particularly to clerk performance evaluation systems and methods for use in connection with POS stations.

Background of the Invention

It is customary in current day retailing practices, to have checkout counters at the exit of a facility, each equipped with a clerk-controlled POS station effecting checkout of articles through bar code scanning, retrieval of article price from a storage unit containing article price cross-correlated with article bar code, display of each article checkout to a customer, selected article price totalization and providing the customer with a printout of the customer's transaction in purchasing articles.

Transaction information is typically transmitted from each POS station to a parent level computer for storing the same for inventory and clerk critique purposes. The critique parameters, implemented by a supervisory person assigned to this purpose at the parent level computer, include such concerns as the facility may have for efficiency of the clerk, attributable to low transactional volume with time, clerk fraud, etc.

Presently-known clerk evaluation practices at the parent level computer for purposes of clerk evaluation are seen as quite labor-intensive for the evaluator, typically involving examining printouts of evaluation level stored data per individual participating POS station.

Summary of the Invention

The present invention has as its primary object the provision of enhanced systems and methods for clerk evaluation in plural station POS arrangements.

A more particular object of the invention is to afford an evaluator at the host computer more efficiency by permitting levels of categorization and concurrency in POS

station clerk evaluation.

In attaining the foregoing and other objects, the invention provides a method for use in evaluating performance of participating POS station clerks comprising the steps of categorizing the POS station clerks into groups in accordance with various categorizing criteria, selecting visible display characteristics specific to each of the categories, providing a display of all participating POS station clerks per their different identities, conforming the display to evidence the selected visible display characteristics, storing transaction information from all participating POS stations with clerk identities, and displaying transaction information through user interaction with the conformed display.

In one particular practice of the method, the clerk identities may comprise their respective names and the first, unconformed display is on a screen of a tabular presentation of the clerks' names at the evaluation level. The display includes also a display of a plurality of colors, assignable to the clerks' names by selecting colors and causing the clerks' names to be displayed against the color as a background for the names. One categorization practice might be to categorize clerks on the basis of their years of experience, in which case, the display conforming step would, e.g., assign the color red to clerks with ten or more years of experience, the color gray to those with five or more years of experience, the color blue to those with less than one year of experience, etc. The display conforming step would so assign the colors, evidently to more than one clerk as the categorization requires.

The color assignments would be cross-correlated with the clerks' identification in a digital storage lookup table, as would the respective clerks' performance information. The evaluator then interacts with the conformed display on a color base, i.e., to inspect performance of ten year employees, the evaluator simply selects red display areas from the conformed display.

Another base for categorization would be clerk fraud. Here, the respective gradations of propensity to fraud per

clerks may be likewise color-coordinated in the conformed display. To inspect the performance of a group of clerks having high fraud propensity would call for the evaluator to interact with the conformed display in respect only of the color assigned to the high clerk fraud propensity grouping.

As will be appreciated, the POS station clerk evaluation so described is but an example of the color-coordinated information retrieval practice of the invention.

Systems implementing the foregoing methods are set forth hereinafter.

The foregoing and other objects and features of the invention will be further understood from the following detailed description thereof and from the drawings, wherein like components are identified by common reference numerals throughout.

Description of the Drawings

Fig. 1 is a functional block diagram of a system in accordance with the invention.

Fig. 2 is a flowchart of a method implemented by the Fig. 1 system in accordance with the invention.

Fig. 3 is a showing of a video screen presentation in accordance with the invention.

Detailed Description of Preferred Practices and Embodiments

Referring to Fig. 1, system 10 includes a POS level 12, having a plurality of POS stations, shown as POS STA1, POS STA2, POS STA3 and POS STAN. The output data of the POS stations, inclusive of transaction data and clerk identification, is furnished to parent computer level 14 over lines 16, 18, 20 and 22, which are bidirectional lines, affording selective interrogation by parent computer level 14 of POS level 12.

Parent computer level 14 includes CLERK ID AND DATA MEMORY 24, CPU 26, display unit 28, DISPLAY CONFORMER 30 and DISPLAY DRIVER 32.

Memory 24 is selectively read by CPU 26 by control CPU input furnished on lines 34 and furnishes clerk identification (ID) data to CPU 26 over lines 36 and POS transaction data to CPU 26 over lines 38.

CPU 26 controls display conformer 30 by input thereto on lines 40 and controls display driver 32 by input thereto on lines 42. Display conformer 30 provides input to display driver 32 over lines 44 and display driver 32 provides input to display unit 28 over lines 46.

CPU 26 provides input to and receives input from display unit 28 over lines 48. Display unit 28 has an upper, horizontal display section 50, which is shown as including individual display parts A, B, C, D, E, F and G, and has a lower, vertical display section 52, which is shown as including individual display parts CLERK 1, CLERK 2, CLERK 3 and CLERK N.

In operation of system 10, CPU 26 undertakes outset set up activity in presenting diverse colors in display parts A-G of display section 50 and maintains such display throughout system activity. In this respect, the CPU accordingly provides video and color signals to display driver 32 which accordingly controls display section 50 by signals continuously furnished over lines 46.

In system usage, CPU 26 directs the POS stations to transmit clerk identification and transaction information to memory 24 and the memory stores the transaction information cross-correlated with the clerk identification information. CPU 26 first reads the identification information from the memory and presents the same in display section 52, again by signals furnished from display driver 32 over lines 46. While but four participating POS stations are shown, the system looks to scrolling as desired for showing additional POS stations.

Operator or user interaction with display sections 50 and 52 involves use of an icon, e.g., a displayed paintbrush, which is movable by arrow keys or a mouse, into selected registry with any of colors A-G, whereupon an ENTER or double-mouse-click informs CPU 26 of user color choice. Assuming the choice to be the color corresponding to color C, the CPU takes the color C to be the immediately operative color for display conformance and so advises display conformer by input over lines 40. The CPU thereupon awaits

clerk assignment by the user to the selected color. The user now moves the icon into registry with one or more of the displayed clerks, as desired, which are to be categorized with the color C. Assuming the user to so designate CLERK 1 AND CLERK 3, the CPU is so informed, again by moving the icon into registry with these display areas and an ENTER or double-mouse-click informs CPU 26 of user of the user designations. CPU 26 accordingly further advises display conformer 30 of the display locations of display section 52 which are involved and the display conformer accordingly directs display driver 32 to "paint" CLERK 1 and CLERK 3 with the color C. Other color assignments are likewise made for the remaining participating POS stations.

CPU 26 thereafter responds to further icon movement to any given area of display section 52 and, e.g., single-mouse-clicking on the given area, to provide a display, in substitution for that of Fig. 1, of all POS transactional information relating to participating clerks having color assignments common with that of the given area. Alternatively, the Fig. 1 display may remain in place and a suitable printout may be made of such transactional information and clerk identities for the color category.

The method implemented in the Fig. 1 system, as above discussed, will be seen to involve the steps set forth in Fig. 2. Referring thereto, step S1, CATEGORIZE POS CLERKS INTO GROUPS IN ACCORDANCE WITH CATEGORIZING CRITERIA, and step S2, SELECT VISIBLE DISPLAY CHARACTERISTICS SPECIFIC TO EACH OF THE CATEGORIES, are implemented by the user performing color selection and identifying groupings of participating POS clerks in respective different categories.

In step S3, which is practiced prior to steps S1 and S2, DISPLAY PARTICIPATING POS CLERKS PER RESPECTIVE DIFFERENT IDENTIFYING INDICIA, the CPU provides the outset and continuous display of clerk participants with respective identifications.

In step S4, CONFORM DISPLAY TO EVIDENCE SELECTED VISIBLE DISPLAY CHARACTERISTICS, the CPU operates display conformer 30, as above described, providing it with color and area

definitions.

Step S5, STORE TRANSACTION INFORMATION FROM PARTICIPATING POS CLERKS CROSS-CORRELATED WITH IDENTIFYING INDICIA, is likewise practiced as an outset step, prior to steps S1, S2 and S4.

In step S6, DISPLAY POS TRANSACTION INFORMATION THROUGH USER INTERACTION WITH CONFORMED DISPLAY, the CPU effects the above-noted display (or printing) in accordance with user single-mouse-clicking on any given display area with resulting display or printing of transaction information specific to POS clerks in the selected color category.

Fig. 3 shows a video screen presentation of the invention wherein the clerks are identified by operator name, operator number and assigned color. In a preferred graphics arrangement, the invention contemplates that the available colors be depicted as paint cans above the Fig. 3 display, and that the icon, during color selection and clerk categorization, is a paintbrush (not shown) and that the selected paint can will tip toward the user and spill an amount of the color thereof onto the paint brush, and that the paint-filled brush will then be moved into registry with the displayed clerks to paint them as desired.

Various changes to the particularly disclosed apparatus, systems and practices may evidently be introduced without departing from the invention. For example, diverse shadings in display presentation may evidently be used in lieu of different colors. Accordingly, it is to be appreciated that the particularly discussed and depicted preferred embodiments and practices of the invention are intended in an illustrative and not in a limiting sense. The true spirit and scope of the invention are set forth in the ensuing claims.

WHAT IS CLAIMED IS:

1. A method for use in evaluating performance of participating POS station clerks comprising the steps of:

(a) categorizing the POS station clerks into groups in accordance with various categorizing criteria;

(b) selecting visible display characteristics specific to each of the categories;

(c) providing a display of all participating POS station clerks per respective different identifying indicia thereof;

(d) conforming the display to evidence the selected visible display characteristics;

(e) storing transaction information from all participating POS stations cross-correlated with the different clerk identifying indicia thereof; and

(f) displaying POS transaction information through user interaction with the conformed display.

2. The method claimed in claim 1, wherein said visible display characteristics are selected to be respective different colors.

3. The method claimed in claim 1, wherein said visible display characteristics are selected to be respective different shadings.

4. The method claimed in claim 1, wherein said step of providing a display of all participating POS station clerks per respective different identifying indicia thereof is practiced by displaying the names of clerks.

5. The method claimed in claim 4, wherein said step of categorizing the POS station clerks into groups in accordance with various categorizing criteria is practiced by providing categories indicative of respective different years of experience of the clerks.

6. The method claimed in claim 4, wherein said step of categorizing the POS station clerks into groups in accordance with various categorizing criteria is practiced by providing categories indicative of respective propensities toward fraudulent conduct of the clerks.

7. The method claimed in claim 1, wherein said step of

selecting visible display characteristics specific to each of the categories is practiced by displaying the characteristics in common on a screen and selecting display characteristics from the screen.

8. The method claimed in claim 1, wherein said step of providing a display of all participating POS station clerks per respective different identifying indicia thereof is practiced by displaying the names of clerks in a first portion of a screen and wherein said step of selecting visible display characteristics specific to each of the categories is practiced in part by displaying the characteristics in common on a second portion of the screen differently located from the first screen portion.

9. The method claimed in claim 8, wherein said step of selecting visible display characteristics specific to each of the categories is practiced in further part by selecting display characteristics from the screen.

10. The method claimed in claim 8, wherein said first screen portion is a generally central screen portion and wherein said second screen portion is a marginal area of said screen.

11. The method claimed in claim 9, wherein said first screen portion is a generally central screen portion and wherein said second screen portion is a marginal area of said screen.

12. The method claimed in claim 7, wherein said step of selecting display characteristics from the screen is practiced by providing a movable icon on the screen and moving said icon into registry with said display characteristics.

13. The method claimed in claim 12, wherein said step of conforming the display to evidence the selected visible display characteristics is practiced by moving said icon into registry with the displayed participating POS station clerks.

14. The method claimed in claim 12, wherein display of said display characteristics is effected by presentation of images of paint cans and visually presenting respectively different colors on said displayed paint cans.

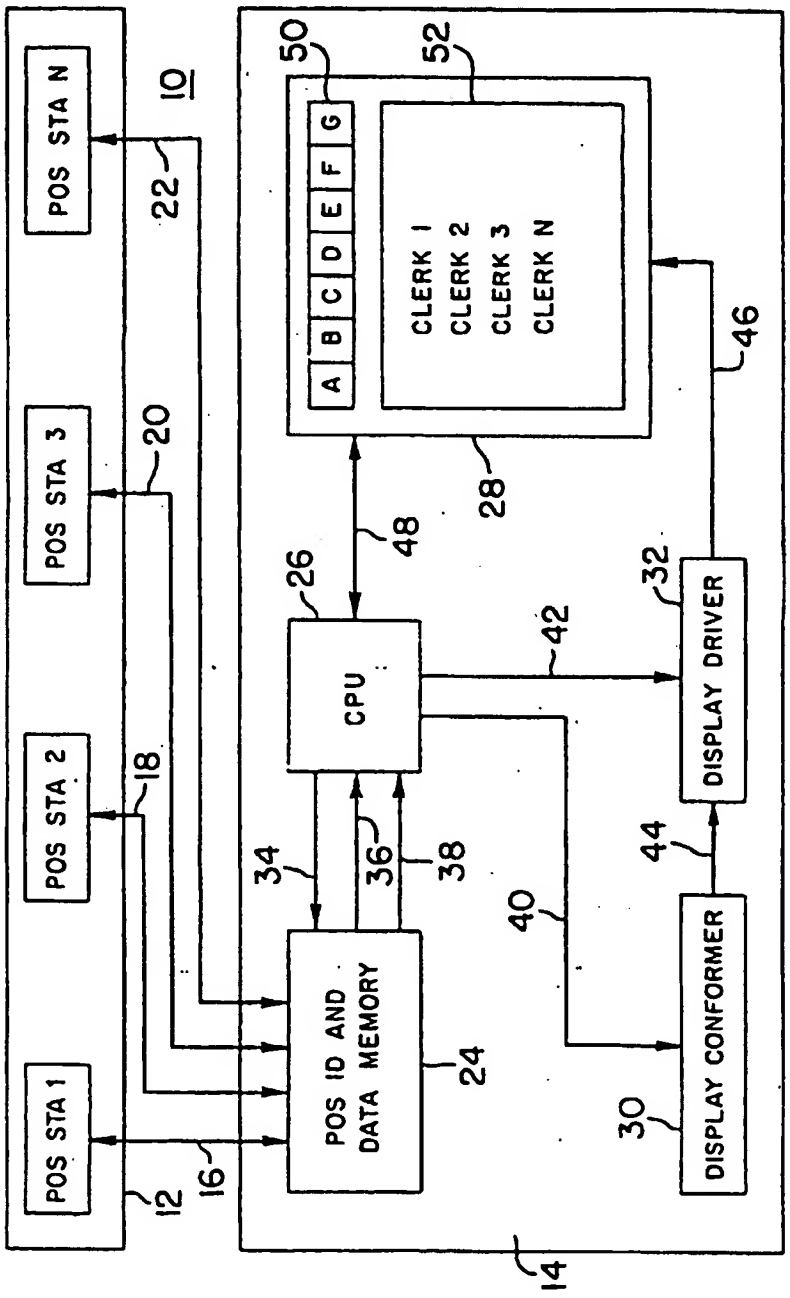
POS STA N
POS STA 3
POS STA 2
POS STA 1
10
22
20
18
16
12
50
52
A
B
C
D
E
F
G
CLERK 1
CLERK 2
CLERK 3
CLERK N
46
28
48
26
CPU
42
32
DISPLAY DRIVER
34
36
38
40
44
POS ID AND DATA MEMORY
24
30
DISPLAY CONFORMER
14

FIG. 1

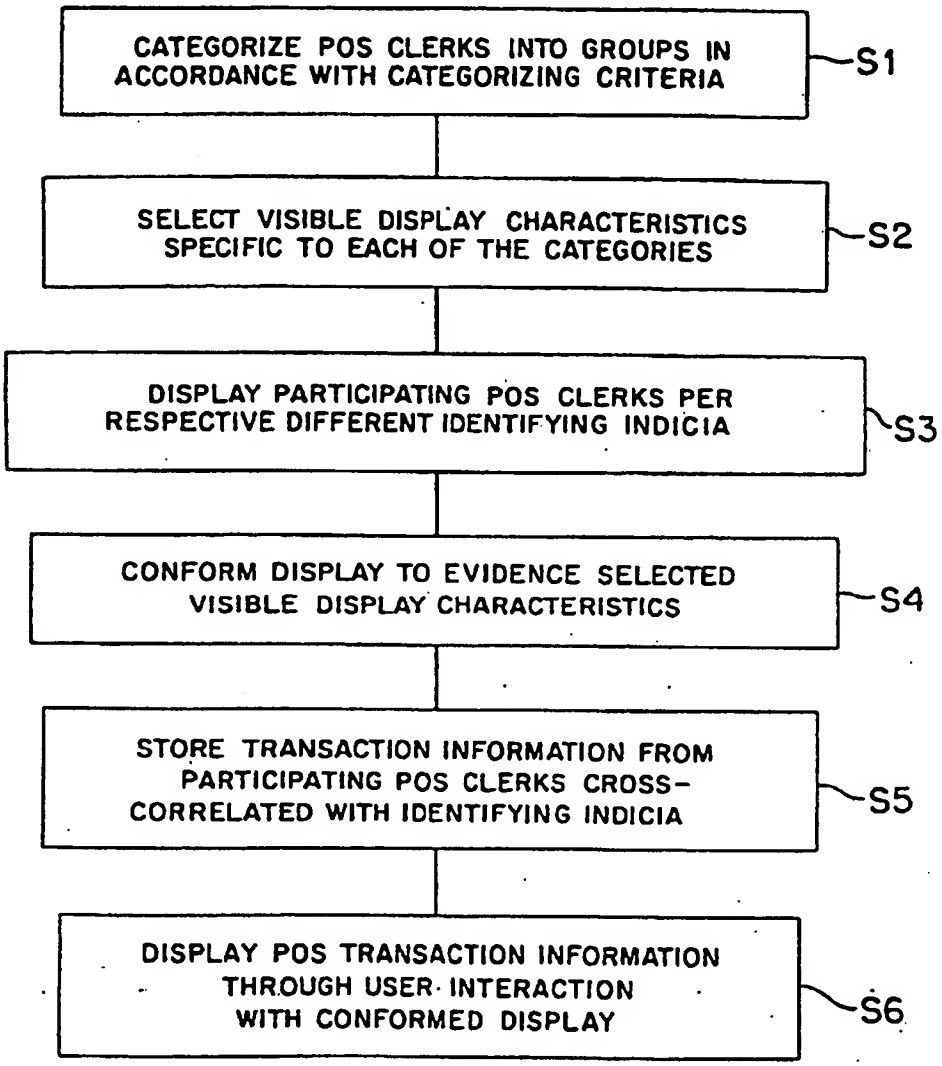
CATEGORIZE POS CLERKS INTO GROUPS IN ACCORDANCE WITH CATEGORIZING CRITERIA
S1
SELECT VISIBLE DISPLAY CHARACTERISTICS SPECIFIC TO EACH OF THE CATEGORIES
S2
DISPLAY PARTICIPATING POS CLERKS PER RESPECTIVE DIFFERENT IDENTIFYING INDICIA
S3
CONFORM DISPLAY TO EVIDENCE SELECTED VISIBLE DISPLAY CHARACTERISTICS
S4
STORE TRANSACTION INFORMATION FROM PARTICIPATING POS CLERKS CROSS-CORRELATED WITH IDENTIFYING INDICIA
S5
DISPLAY POS TRANSACTION INFORMATION THROUGH USER INTERACTION WITH CONFORMED DISPLAY
S6

FIG. 2

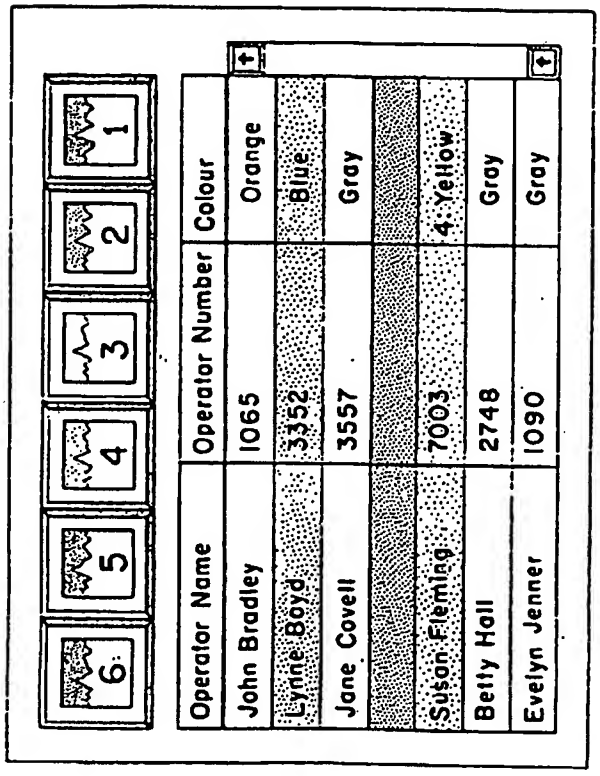
1
2
3
4
5
6
Operator Name
Operator Number
Colour
John Bradley
1065
Orange
Lynne Boyd
3352
Blue
Jane Covell
3557
Gray
Susan Fleming
7003
4. Yellow
Betty Hall
2748
Gray
Evelyn Jenner
1090
Gray

FIG. 3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US96/16016

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :G07G 1/12
US CL : 364/401, 402, 405; 395/600
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 364/401, 402, 405; 395/600; 235/383

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	US, A, 5,510,979 (MODERI et al.) 23 April 1996, col. 1, lines 54-59, col. 2, lines 22-26, col 3., lines 48-67.	1, 4, 7, 10, 13
Y,E	US, A, 5,256,863 (FERGUSON et al.) 26 October 1996, col. 2, lines 28-35	6
Y,P	US, A, 5,454,104 (STEIDLMAYER et al.) 26 September 1996, col. 4, lines 59-67.	3-4

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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